Texas Newborn Screening Performance Measures Project

2nd Quarterly Meeting

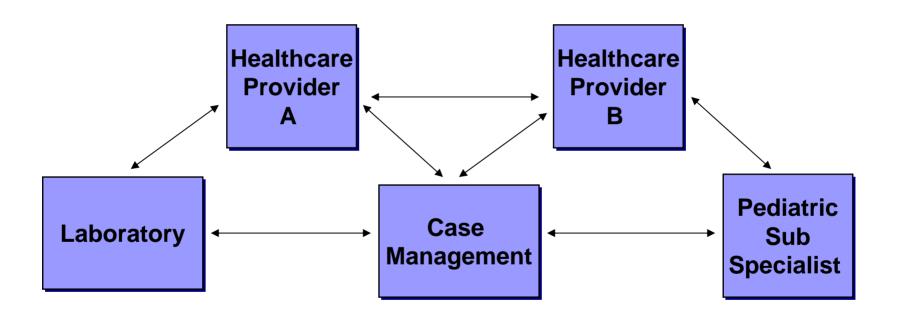
Texas Newborn Screening Program Processes

Susan Tanksley, PhD David Martinez

April 10th, 2008

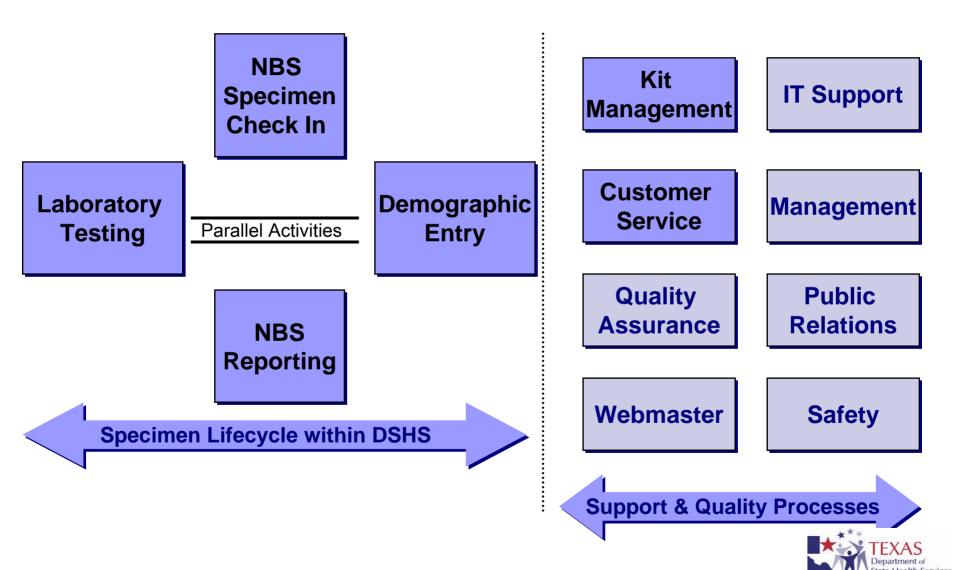


Newborn Screening System





NBS Laboratory Process Areas



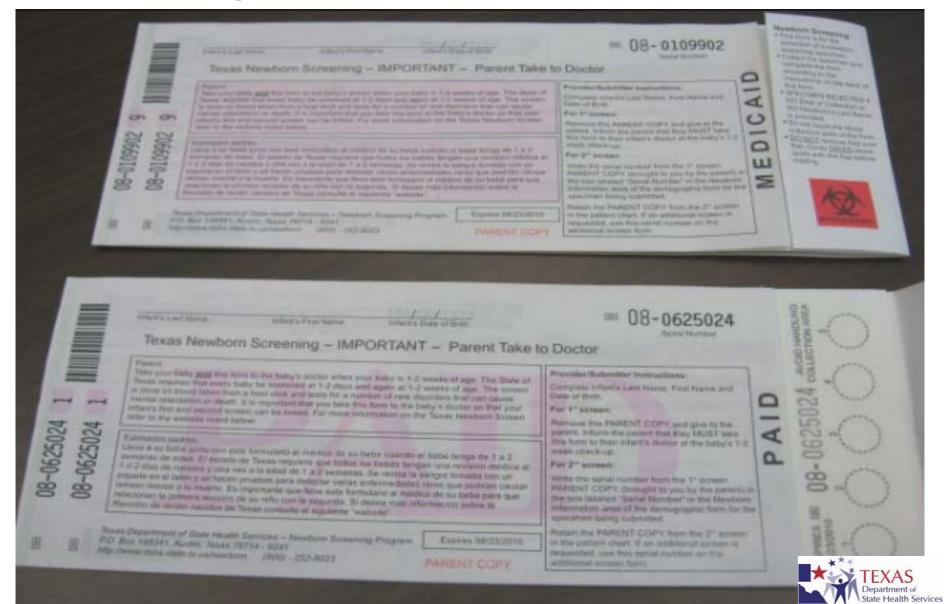
NBS Kit Management

- Receives and manages distribution of specimen blood collection kits
 - □ Each kit has a unique identifier
 - □ Each kit includes patient demographic forms
- Provides medical community with specimen blood collection kits upon request
 - ☐ Medicaid/Charity/CHIP kits
 - □ Prepaid kits
- Manages submitter addresses in LIMS
 - □ Ship To location to mail kits
 - □ Report To location to mail reports
 - □ Bill To location to mail bill
- Coordinates with billing when needed
- Handle return of cards
- Stores and archives kit requests





2008 Specimen Collection Form

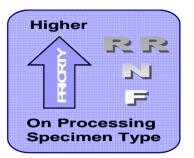


2008 NBS Specimen Collection



NBS Check In Group

- Receives and opens NBS envelopes
- Evaluates specimens against acceptance criteria
 - ☐ Assigns date of receipt
 - Assigns laboratory identification number
- Processes specimens by type:
 - □ Newborn (N): Collected < 7 days after birth</p>
 - □ Follow-up (F): Collected ≥ 7days after birth
 - Requested Repeats (RR): Repeat of Previous Abnormal
 - Unsatisfactory for Testing





Specimen Receiving



One day's worth of specimens...





NBS Check In Group Cont'd

- Verifies requested repeat previous abnormal result
 - Delivers to laboratory testing area on same day of receipt
- Batches N and F separately and delivers to appropriate area
 - □ Blood collection cards sent to testing area
 - □ Demographic form sent to demo entry area
- Coordinates with laboratory testing area to schedule specimen processing load



Laboratory Testing Areas

- Punch circular blood sample into plates for specific disorder analysis
- Plates distributed to 6 method-specific analytical areas
 - □ MS/MS, BIOT, Hb, CAH, CH, and GALT
- Prepares, analyzes & reports specimens
- Updates global program messages on mailer footer
 - Used as tool to communicate important program messages



Punching Specimens



Laser Punch





Laboratory Testing Areas

- Identifies and repeats specimens with out of range results
- Identifies repeat specimens that meet criteria for borderline or abnormal result
- Notifies Case Management of abnormal results by telephone and/or fax
- Releases all results for reporting by mail or fax
 - □ All results typically released on day 3 or 4

Hemoglobinopathy Screening



T4, TSH and CAH analysis AutoDELFIA Instrument



Tandem Mass Spectrometer





Demographic Entry Team

- Enters information from specimen demographic sheet into LIMS
- Prints and validates demographic entries
- Releases demographic portion of specimen
- Stores and archives specimen demographic sheets
- Activities are concurrent with laboratory testing



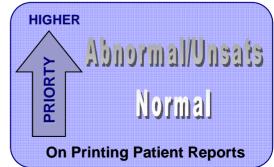
Demographic Entry





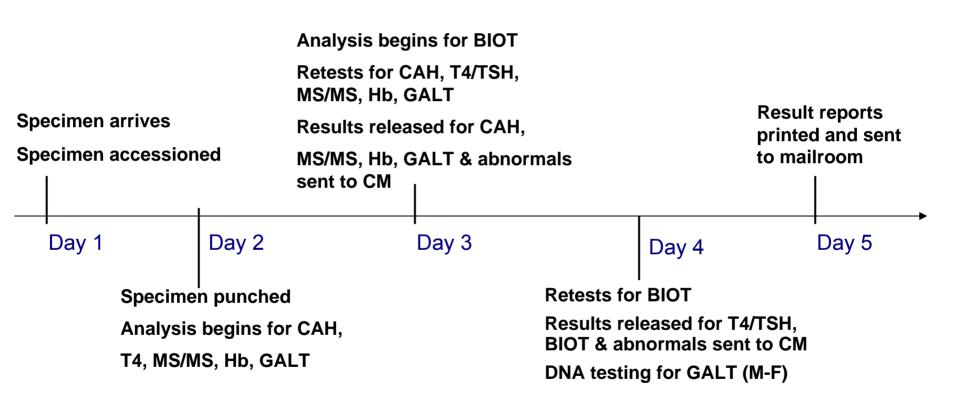
NBS Reporting Area

- Prints NBS patient final hardcopy reports "mailers"
 - □ After both demographic entry and laboratory areas have "released" the specimen
- Monitors automatically generated readonly mailer images for in-house archiving
- Responds to Submitter telephone requests for NBS final results
 - □ Approximately 2500/month





Timeline of a specimen in the lab...



Hemoglobinopathy DNA testing performed in weekly batches.

PKU DNA analysis performed after case is diagnosed.

NBS Customer Service

- Produces and disseminates NBS Report
 Card to all submitters
 - □ Supplied quarterly
 - Includes information on transit time and specimen quality issues
- Works with Case Management to identify submitters needing education



2007 NEWBORN SCREENING REPORT CARD - 3rd Quarter

Submitter ID:

00000001

Submitter Name:

TEXAS DEPT OF STATE HLTH SERVICES

SUBMITTER STATISTICS:
Submitter Category: MEDIUM Volume *

Submitter NPI:

1100 W 49TH ST ATTN: LABORATORY AUSTIN, TX 78756

Specimen Quality: 2 of 431 Unsatisfactory

Transit Time: 429 of 431 Rejected

(0.46%)

() -

Your Rank for Specimen Quality: 58 of 409

											()	<u> </u>											Your R	ank for	Specim	en Qual	ity: 58	of 409		
		UNSA	TISE	1CI	ORY	RY SPECIMEN QUALITY							(One unsatisfactory specimen may have up to three un.									odes.)	TIME FROM COLLECTION TO RECEIPT							
Month	TOTAL SPECIMENS SUBMITTED	TOTAL NUMBER OF UNSATISFACTÓRY SPECIMENS	UNSATISFACTORY RATIO	BLOOD DID NOT COMPLETELY FILL SPECIMEN CIRCLES	BLOOD DID NOT SOAK THROUGH PAPER - INCOMPLETE SATURATION	FILTER PAPER IS SCRATCHED FROM THE POSSIBLE USE OF CAPILLARY TUBES	SPECIMEN APPEARED CONTAMINATED OR DISCOLORED	BLOOD WAS CAKED, CLOTTED, OR LAYERED ONTO THE FILTER PAPER	ASSAY INTERFERENCE DUE TO EDTA/CITRATE ANTICOAGULANT CONTAMINATION	ASSAY INTERFERENCE	INCOMPLETE ELUTION OF BLOOD FROM FILTER PAPER	PATIENT INFORMATION INCOMPLETE OR INVALID	SERIAL NUMBER ON PATIENT INFORMATION FORM DOES NOT MATCH NUMBER ON SPECIMEN FILTER PAPER	SPECIMEN TOO OLD UPON RECEIPT	UNABLE TO ANALYZE SPECIMEN DUE TO LABORATORY ACCIDENT	NO BLOOD SAMPLES RECEIVED WITH REQUEST FORM	SPECIMEN SUBMITTED ON IMPROPER COLLECTION FORM	SPECIMEN SUBMITTED ON EXPIRED COLLECTION FORM	SPECIMEN RESULTS INCONSISTENT	SERUM SEPARATION DUE TO IMPROPER DRYING OR SPECIMEN COLLECTION	SPECIMEN DAMAGED DURING TRANSPORT TO LABORATORY	TOTAL NUMBER OF UNSATISFACTORY CODES	RECEIVED ON DAY: 1-3 G	RECEIVED ON DAY: 4-5	RECEIVED ON DAY: 6-7	RECEIVED ON DAY: 8-9 Nece	RECEIVED ON DAY: 10-13 eds	RECEIVED ON DAY: 14 OR MORE	RECEIVED: MISSING DATE OF COLLECTION	AVERAGE TRANSIT TIME
01 - JAN	26	0	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	23	14.8
02 - FEB	44	0	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	15.0
03 - MAR	55	1	1.82%	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	55	15.0
04 - APR	52	1	1.92%	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	52	15.0
05 - MAY	52	0	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	15.0
06 - JUN	51	0	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	15.0
07 - JUL	50	0	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	15.0
08 - AUG	54	0	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	15.0
09 - SEP	47	0	0.00%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	15.0
Totals:	431	2	0.46%	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	2	1	428	15.0
																							0.00%	0.00%	0.00%	0.00%	0.46%	0.23%	99.30%	
Category Totals:	191,754	4,650 2.42% * Submitter Category Volume is determined by average number of monthly submissions:														Category Totals:			29,682	82,571	55,496	15,807	4,590	779	2,829	5.4				
Totals for All Submitters	601,903	12,836	2.13%		LOW : 20 or less														otals t All abmitt		111,994	253,902	169,188	45,041	13,073	2,313	6,394	0.4		

Monday, December 3, 2007

DSHS Laboratory Services Section 1100 W. 49th Street, Austin, TX 78756

1-888-963-7111 x6030

TEXAS
Department of State Health Service

2007 NEWBORN SCREENING REPORT CARD - 2nd Quarter

Submitter Name: SUBMITTER STATISTICS: Submitter ID: Submitter Category: HIGH Volume * Submitter NPI: Specimen Quality: 123 of 3061 Unsatisfactory (4.02%) Transit Time: 113 of 3061 Rejected Your Rank for Specimen Quality: 96 of 106 18 10 1021-7760 UNSATISFACTORY SPECIMEN OUALITY TIME FROM COLLECTION TO RECEIPT (One unsatisfactory specimen may have up to three unsatisfactory codes.) SCEIVED: MESING DATE OF THE THE CANADA DE LEGISLAND UNSATISFACIONY RAIN CHARLETTS NOOBBIAT SCHAM AFRAE ES COMPANSATES SECOLORES Month Good Fair Improvement Rejected 01 - JAN 1488% 02 - FEB 207% 6.3 03 - MAR 1 1 2% 6.9 0.39% 04 - APR 1 59% 5.3 05 - MAY 1 56% 5.1 4.02% Totals: 37.83% 13.59% 0.85% 37.57% 5.42% 284% Category *Submitter Category Volume is determined by average number of monthly submissions: Category 218,135 3,759 1.72% Totals: Totals: : 150 or more MEDIUM: 21 - 149 Totals for Totals for 113,927 LOW : 20 or less 391,948 10,697 AIL Submitters: Submitters:



Questions?

